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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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EXAMINER

LM32/0909

ART UNIT DU, A PAPER NUMBER

4

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DATE MAILED:

09/09/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS**OFFICE ACTION SUMMARY**

Responsive to communication(s) filed on _____.

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-35 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-35 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of Reference Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 9

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-122

-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --

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DETAILED ACTION

Specification

OK 1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. **The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.** The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it contains the legal phraseology "means" in "signal processing means" (lines 8-9 and 10-11) and "said" in "said bill" (lines 11 and 12). Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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As to independent claims 1, 13 and 14, the term "being not substantially more than about" renders the claims indefinite since it is not only a negative limitation but also a relative term which has not been supported by the specification.

8/1C As to independent claim 18, the term "no greater than" renders the claim indefinite because it is a negative limitation which has not been supported by the specification.

As to independent claims 27 and 30, the term "being not substantially greater than about" renders the claims because it is not only a negative limitation but also a relative term which has not been supported by the specification.

Consequently, the other claims (except claims 34 and 35) are indefinite because they depend upon the above independent claims and some of them also contain negative limitations and relative terminology.

As to independent claim 34, the term "said evaluation device" (lines 13-14) renders the claim indefinite because it lacks antecedent basis for that term. Consequently, claim 35 is indefinite as depending upon claim 34.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roes et al. (U.S. Patent No. 4,587,434).

As to claims 1-4 and 13-17, Roes discloses:

- a housing 12 inherently having a depth, width and height dimension (Fig. 1);
- a discriminating unit for retrieving characteristic information from one or more bills (i.e.,

PIN diodes for generating a plurality of read signals corresponding to each track, with the amplitudes of read signals representing the intensity of the color or infrared spectral reflectance of a particular sample area on the note) (col. 11, line 68 - col. 12, line 5);

- a memory for storing master characteristic information associated with each genuine bill which the system is capable of identifying (i.e., EPROM 104 for storing acceptance band data associated with each valid note) (col. 12, lines 7-18);

- signal processing means for comparing said retrieved characteristic information with master characteristic information associated with at least one genuine bill (i.e., first and second comparison means for comparing the read signal with the acceptance band data) (col. 15, lines 19-58); said signal processing means generating an indication of the identity of said bill based on said comparison when said retrieved characteristic information sufficiently matches said master characteristic information (i.e., first and second comparison means, generating third validation signal means and generating pass signal means for generating a pass signal indicating the identity

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of the note based on the comparison when the first, second and third validation signals have been generated) (col. 15, 19-63).

Although Roes does not explicitly teach that the height, depth, and width dimensions of the housing are not substantially more than 4, 5 and 2 times the smaller and larger cross-sectional dimension of the smallest bill, respectively, or 10 inches and 12.5 inches, it would have been obvious to one of ordinary skill in the art that Roes can do so because: 1/ it is a design choice; 2/ the transport means of the housing in Roes is capable of accommodating the various widths of currency notes used around the world, for example, lesser width notes can be handled by mounting guide rails at appropriate locations and by substituting a different entrance bezel having a throat with appropriate width (col. 4, lines 29-39).

As to claim 18, Roes shows:

- a housing 12 (Fig. 1);
- an input bin (i.e., bezel 20) mounted to said housing 12 (Fig. 1);
- a transport path 18 for transporting bills through said housing 12 (Fig. 1);
- upper and lower rollers 22 having one portion extending into the input bin 20 and another portion extending into the transport path 18 (Fig. 1);
- pulleys 26 located along the transport path 18 and spaced apart from the upper and lower rollers 22 along the transport path 18 by a distance less than the narrow dimension of a bill 32 (Figs. 1 and 3);

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- at least one a stacker wheel 22 (the last right one) having one portion extending into the transport path 18 and another portion extending into the place where the bills exit from the house 12 , said stacker wheel 22 being located along the transport path 18 and spaced apart from the rollers 22 and the pulleys 26 by a distance inherently no greater than the narrow dimension of the bill 32 (Fig. 1).

Although Roes does not explicitly teach an output bin, it would have been obvious to one of ordinary skill in the art that the output bin can be included in Roes' system because the housing 12 inherently has an exit from which the bills 32 would come out after being processed along the transport path 18.

As to claims 5-6 and 19-20, the discriminating unit scans less than the entire bill (i.e., the optical scanning station 36 only scans along three laterally spaced tracks 42, 44 and 46 down the length of the note 32) (Figs. 3 and 6 and col. 4, lines 54-57).

As to claims 7 and 21, Roes teaches:

- memory EPROM 104 for storing master patterns (i.e., acceptance band data) associated with genuine bills, said master patterns corresponding to scanned patterns generated by the PIN diode (Figs 3 and 6 and col. 4, lines 54-57 and col. 12, lines 14-19).

As to claims 8 and 22, Roes teaches:

- means for comparing laterally displaced scanned patterns with laterally displaced master patterns and generating a pass signals based on the comparison when said scanned patterns

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sufficiently matches said master patterns (Figs. 3 and 6, and col. 12, lines 7-19 and col. 15, lines 19-63).

As to claims 9, 12, 23 and 26, Roes discloses:

- scanning a segment of said bill at a predetermined distance inboard of the leading edge of the bill (col. 7, lines 11-20);
- memory EPROM 102 stores the upper and lower limits for the reflectance readings associated with the scanning of the segment of the bill inherently having a given denomination beginning at the distance inboard of the leading edge of the bill (col. 12, lines 7-19 and col. 7, lines 11-20).

As to claims 10 and 24, Roes teaches:

- transport means for transporting bills, one at a time, along a transport path (col. 3, lines 49-51);
- a discriminating unit for retrieving characteristic information from one or more bills (i.e., PIN diodes for generating a plurality of read signals corresponding to each track, with the amplitudes of read signals representing the intensity of the color or infrared spectral reflectance of a particular sample area on the note) (col. 11, line 68 - col. 12, line 5);
- a memory for storing master characteristic information associated with each genuine bill which the system is capable of identifying (i.e., EPROM 104 for storing acceptance band data associated with each valid note) (col. 12, lines 7-18), said master characteristic information

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associated with laterally displaced scan assisting compensating for lateral displacement of the bill 32 (Figs. 3 and 6 and col. 4, lines 54-57 and col. 13, lines 7-10).

As to claims 11 and 25, it would have been obvious to one of ordinary skill in the art that Roes can transport the bills at a rate in excess of about 1,000 bills per minute because: 1/ it is a design choice; 2/ Roes also mentions about the transport speed of approximately 21.6 cm per second (col. 4, lines 17-20).

As to claim 27, Roes teaches:

- a housing 12 inherently having a depth, width and height dimension (Fig. 1);
- a discriminating unit for retrieving characteristic information from one or more bills (i.e.,

PIN diodes for generating a plurality of read signals corresponding to each track, with the amplitudes of read signals representing the intensity of the color or infrared spectral reflectance of a particular sample area on the note) (col. 11, line 68 - col. 12, line 5);

- a memory for storing master characteristic information associated with each genuine bill which the system is capable of identifying (i.e., EPROM 104 for storing acceptance band data associated with each valid note) (col. 12, lines 7-18);

- signal processing means for comparing said retrieved characteristic information with master characteristic information associated with at least one genuine bill (i.e., first and second comparison means for comparing the read signal with the acceptance band data) (col. 15, lines 19-58); said signal processing means generating an indication of the identity of said bill based on said comparison when said retrieved characteristic information sufficiently matches said master

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characteristic information (i.e., first and second comparison means, generating third validation signal means and generating pass signal means for generating a pass signal indicating the identity of the note based on the comparison when the first, second and third validation signals have been generated) (col. 15, 19-63).

Although Roes does not explicitly teach that a footprint of the housing obtained by multiplying depth dimension by width dimension are not substantially greater than about 125 square inches, it would have been obvious to one of ordinary skill in the art that Roes can do so because: 1/ it is a design choice; 2/ the transport means of the housing in Roes is capable of accommodating the various widths of currency notes used around the world, for example, lesser width notes can be handled by mounting guide rails at appropriate locations and by substituting a different entrance bezel having a throat with appropriate width (col. 4, lines 29-39).

As to claim 30, Roes discloses:

- a housing 12 inherently having a depth, width and height dimension (Fig. 1);
- a discriminating unit for retrieving characteristic information from one or more bills (i.e., PIN diodes for generating a plurality of read signals corresponding to each track, with the amplitudes of read signals representing the intensity of the color or infrared spectral reflectance of a particular sample area on the note) (col. 11, line 68 - col. 12, line 5);
- a memory for storing master characteristic information associated with each genuine bill which the system is capable of identifying (i.e., EPROM 104 for storing acceptance band data associated with each valid note) (col. 12, lines 7-18);

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- signal processing means for comparing said retrieved characteristic information with master characteristic information associated with at least one genuine bill (i.e., first and second comparison means for comparing the read signal with the acceptance band data) (col. 15, lines 19-58); said signal processing means generating an indication of the identity of said bill based on said comparison when said retrieved characteristic information sufficiently matches said master characteristic information (i.e., first and second comparison means, generating third validation signal means and generating pass signal means for generating a pass signal indicating the identity of the note based on the comparison when the first, second and third validation signals have been generated) (col. 15, 19-63).

Although Roes does not explicitly teach that the volume of the housing are not substantially greater than about 1,250 cubic inches, it would have been obvious to one of ordinary skill in the art that Roes can do so because: 1/ it is a design choice; 2/ the transport means of the housing in Roes is capable of accommodating the various widths of currency notes used around the world, for example, lesser width notes can be handled by mounting guide rails at appropriate locations and by substituting a different entrance bezel having a throat with appropriate width (col. 4, lines 29-39).

As to claims 28 and 31, it would have been obvious to one of ordinary skill in the art that the depth dimension of the housing in Roes is not substantially greater than about 12.5 inches because of design choice.

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As to claims 29 and 33, it would have been obvious to one of ordinary skill in the art that the width dimension of the housing in Roes is not substantially greater than about 10 inches because of design choice.

As to claim 32, it would have been obvious to one of ordinary skill in the art that the height dimension of the housing in Roes is not substantially greater than about 10 inches because of design choice.

As to claim 34, Roes teaches:

- a discriminating unit for retrieving characteristic information from one or more bills (i.e., PIN diodes for generating a plurality of read signals corresponding to each track, with the amplitudes of read signals representing the intensity of the color or infrared spectral reflectance of a particular sample area on the note) (col. 11, line 68 - col. 12, line 5);

- a memory for storing master characteristic information associated with each genuine bill which the system is capable of identifying (i.e., EPROM 104 for storing acceptance band data associated with each valid note) (col. 12, lines 7-18);

- signal processing means for comparing said retrieved characteristic information with master characteristic information associated with at least one genuine bill (i.e., first and second comparison means for comparing the read signal with the acceptance band data) (col. 15, lines 19-58); said signal processing means generating an indication of the identity of said bill based on said comparison when said retrieved characteristic information sufficiently matches said master characteristic information (i.e., first and second comparison means, generating third validation

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signal means and generating pass signal means for generating a pass signal indicating the identity of the note based on the comparison when the first, second and third validation signals have been generated) (col. 15, 19-63).

Although Roes does not explicitly teach the evaluation device is relatively compact, it would have been obvious to one of ordinary skill in the art that Roes can do so because of design choice.

As to claim 35, it would have been obvious to one of ordinary skill in the art that Roes can inherently designate one or more of currency systems because: 1/ it is a design choice; 2/ the Roes' currency not validator device can be applied to any currency system used around the world, for example Hong Kong currency system (col. 4, lines 29-33) and British currency system (col. 11, lines 1-2).

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Hong Do whose telephone number is (703) 308-6720.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

September 2, 1998.



ANH HONG DO
PATENT EXAMINER


JOSE L. COUSO
PRIMARY EXAMINER